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SEQUENCE LISTING

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<120> IMMUNE CELL RECEPTOR LIGAND AND IMMUNE CELL RECEPTOR

<130> 555-73

<140> PCT/US03/27488

<141> 2003-09-04

<150> 60/408,397

<151> 2002-09-04

<150> 60/478,371

<151> 2003-06-13

<160> 21

<170> PatentIn Ver. 2.1

<210> 1

<211> 148

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Exon 1 of Letal

<400> 1

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accataccag tgaggggtgaa tgtgtacacg cccagcttcc tgcctgttac tctccacagt 60
atgcgaagaa tatccctgac ttctagccct gtgcgccttc tttgtttct gctgttgcta 120
ctaatagcct tggagatcat gggtggtg                                     148
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<210> 2

<211> 257

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Exon 2 of Letal

<400> 2

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gtcactctct ttgcttcaac ttactataa aatcattgtc cagacctgga cagccctggt 60
gtgaagcgca ggtcttcttg aataaaaatc ttttccttca gtacaacagt gacaacaaca 120
tggtcaaacc tctgggcctc ctggggaaga aggtatatgc caccagcact tggggagaat 180
tgacccaaac gctgggagaa gtggggcgag acctcaggat gctcctttgt gacatcaaac 240
cccagataaa gaccagt                                     257
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<210> 3

<211> 276

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Exon 3 of Letal

<400> 3

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gacccctcca ctctgcaagt cgagatgttt tgtcaacgtg aagcagaacg gtgcactggg 60
gcatcctggc agttcgccac caatggagag aaatccctcc tctttgacgc aatgaacatg 120
acctggacag taattaatca tgaagccagt aagatcaagg agacatggaa gaaagacaga 180
gggctggaaa agtatttcag gaagctctca aagggagact gcgatcactg gctcagggaa 240
ttcttagggc actgggagc aatgccagaa ccgaca 276
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<210> 4

<211> 204

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Exon 4 of Letal

<400> 4

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gtgtcaccag taaatgcttc agatatccac tggctcttctt ctagtctacc agatagatgg 60
atcatcctgg gggcattcat cctgttagtt ttaatgggaa ttgttctcat ctgtgtctgg 120
tggcaaaatg gtgagtggca ggctggcttc tggcccttga ggacgtctta gtctggtaag 180
gactcaagag aggtgaatca tggg 204
```

<210> 5

<211> 244

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:ULBP1

<400> 5

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Met Ala Ala Ala Ser Pro Ala Phe Leu Leu Cys Leu Pro Leu Leu
  1           5           10           15
```

```
His Leu Leu Ser Gly Trp Ser Arg Ala Gly Trp Val Asp Thr His Cys
  20           25           30
```

```
Leu Cys Tyr Asp Phe Ile Ile Thr Pro Lys Ser Arg Pro Glu Pro Gln
  35           40           45
```

```
Trp Cys Glu Val Gln Gly Leu Val Asp Glu Arg Pro Phe Leu His Tyr
  50           55           60
```

```
Asp Cys Val Asn His Lys Ala Lys Ala Phe Ala Ser Leu Gly Lys Lys
  65           70           75           80
```

```
Val Asn Val Thr Lys Thr Trp Glu Glu Gln Thr Glu Thr Leu Arg Asp
  85           90           95
```

```
Val Val Asp Phe Leu Lys Gly Gln Leu Leu Asp Ile Gln Val Glu Asn
  100          105          110
```

100					105					110					
Tyr	Thr	Pro	Lys	Glu	Pro	Leu	Thr	Leu	Gln	Ala	Arg	Met	Ser	Cys	Glu
		115					120					125			
Gln	Lys	Ala	Glu	Gly	His	Ser	Gly	Ser	Trp	Gln	Phe	Ser	Phe	Asp	
	130					135					140				
Gly	Gln	Ile	Phe	Leu	Leu	Phe	Asp	Ser	Glu	Lys	Arg	Met	Trp	Thr	Thr
145				150					155					160	
Val	His	Pro	Gly	Ala	Arg	Lys	Met	Lys	Glu	Lys	Trp	Glu	Asn	Asp	Lys
			165						170				175		
Val	Val	Ala	Met	Ser	Phe	His	Tyr	Phe	Ser	Met	Gly	Asp	Cys	Ile	Gly
		180						185					190		
Trp	Leu	Glu	Asp	Phe	Leu	Met	Gly	Met	Asp	Ser	Thr	Leu	Glu	Pro	Ser
		195					200					205			
Ala	Gly	Ala	Pro	Leu	Ala	Met	Ser	Ser	Gly	Thr	Thr	Gln	Leu	Arg	Ala
	210					215					220				
Thr	Ala	Thr	Thr	Leu	Ile	Leu	Cys	Cys	Leu	Leu	Ile	Ile	Leu	Pro	Cys
225				230					235					240	
Phe	Ile	Leu	Pro	Gly	Ile										
				245											

<210> 7

<211> 244

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:ULBP3

<400> 7

Met	Ala	Ala	Ala	Ala	Ser	Pro	Ala	Ile	Leu	Pro	Arg	Leu	Ala	Ile	Leu
1				5					10					15	
Pro	Tyr	Leu	Leu	Phe	Asp	Trp	Ser	Gly	Thr	Gly	Arg	Ala	Asp	Ala	His
		20						25					30		
Ser	Leu	Trp	Tyr	Asn	Phe	Thr	Ile	Ile	His	Leu	Pro	Arg	His	Gly	Gln
		35					40					45			
Gln	Trp	Cys	Glu	Val	Gln	Ser	Gln	Val	Asp	Gln	Lys	Asn	Phe	Leu	Ser
	50					55					60				
Tyr	Asp	Cys	Gly	Ser	Asp	Lys	Val	Leu	Ser	Met	Gly	His	Leu	Glu	Glu
65					70					75				80	
Gln	Leu	Tyr	Ala	Thr	Asp	Ala	Trp	Gly	Lys	Gln	Leu	Glu	Met	Leu	Arg
				85					90					95	

Glu Val Gly Gln Arg Leu Arg Leu Glu Leu Ala Asp Thr Glu Leu Glu  
 100 105 110  
 Asp Phe Thr Pro Ser Gly Pro Leu Thr Leu Gln Val Arg Met Ser Cys  
 115 120 125  
 Glu Cys Glu Ala Asp Gly Tyr Ile Arg Gly Ser Trp Gln Phe Ser Phe  
 130 135 140  
 Asp Gly Arg Lys Phe Leu Leu Phe Asp Ser Asn Asn Arg Lys Trp Thr  
 145 150 155 160  
 Val Val His Ala Gly Ala Arg Arg Met Lys Glu Lys Trp Glu Lys Asp  
 165 170 175  
 Ser Gly Leu Thr Thr Phe Phe Lys Met Val Ser Met Arg Asp Cys Lys  
 180 185 190  
 Ser Trp Leu Arg Asp Phe Leu Met His Arg Lys Lys Arg Leu Glu Pro  
 195 200 205  
 Thr Ala Pro Pro Thr Met Ala Pro Gly Leu Ala Gln Pro Lys Ala Ile  
 210 215 220  
 Ala Thr Thr Leu Ser Pro Trp Ser Phe Leu Ile Ile Leu Cys Phe Ile  
 225 230 235 240  
 Leu Pro Gly Ile

<210> 8

<211> 263

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Letal

<400> 8

Met Arg Arg Ile Ser Leu Thr Ser Ser Pro Val Arg Leu Leu Leu Phe  
 1 5 10 15  
 Leu Leu Leu Leu Leu Ile Ala Leu Glu Ile Met Val Gly Gly His Ser  
 20 25 30  
 Leu Cys Phe Asn Phe Thr Ile Lys Ser Leu Ser Arg Pro Gly Gln Pro  
 35 40 45  
 Trp Cys Glu Ala Gln Val Phe Leu Asn Lys Asn Leu Phe Leu Gln Tyr  
 50 55 60  
 Asn Ser Asp Asn Asn Met Val Lys Pro Leu Gly Leu Leu Gly Lys Lys  
 65 70 75 80  
 Val Tyr Ala Thr Ser Thr Trp Gly Glu Leu Thr Gln Thr Leu Gly Glu  
 85 90 95

Val Gly Arg Asp Leu Arg Met Leu Leu Cys Asp Ile Lys Pro Gln Ile  
 100 105 110  
 Lys Thr Ser Asp Pro Ser Thr Leu Gln Val Glu Met Phe Cys Gln Arg  
 115 120 125  
 Glu Ala Glu Arg Cys Thr Gly Ala Ser Trp Gln Phe Ala Thr Asn Gly  
 130 135 140  
 Glu Lys Ser Leu Leu Phe Asp Ala Met Asn Met Thr Trp Thr Val Ile  
 145 150 155 160  
 Asn His Glu Ala Ser Lys Ile Lys Glu Thr Trp Lys Lys Asp Arg Gly  
 165 170 175  
 Leu Glu Lys Tyr Phe Arg Lys Leu Ser Lys Gly Asp Cys Asp His Trp  
 180 185 190  
 Leu Arg Glu Phe Leu Gly His Trp Glu Ala Met Pro Glu Pro Thr Val  
 195 200 205  
 Ser Pro Val Asn Ala Ser Asp Ile His Trp Ser Ser Ser Ser Leu Pro  
 210 215 220  
 Asp Arg Trp Ile Ile Leu Gly Ala Phe Ile Leu Leu Val Leu Met Gly  
 225 230 235 240  
 Ile Val Leu Ile Cys Val Trp Trp Gln Asn Gly Glu Trp Gln Ala Gly  
 245 250 255  
 Leu Trp Pro Leu Arg Thr Ser  
 260

<210> 9

<211> 710

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:cDNA sequence of immune cell receptor  
LCCR

<400> 9

```

tttcgagcac atgtgttttt atgagaatta tgctgagata gatttccttta catattcatc 60
aatgtctgaa gaagttactt atgcagatct tcaattccag aactccagtg agatggaaaa 120
aatcccagaa attggcaaat ttggggaaaa agcacctcca gctccctctc atgtatggcg 180
tccagcagcc ttgtttctga ctcttctgtg ctttctgttg ctcatggat tgggagtctt 240
ggcaagcatg tttcacgtaa ctttgaagat agaaatgaaa aaaatgaaca aactacaaaa 300
catcagttaa gagctccaga gaaatatttc tctacaactg atgagtaaca tgaatatctc 360
caacaagatc aggaacctct ccaccacact gcaaacaata gccaccaaat tatgtcgtga 420
gctatatagc aaagaacaag agcacaaatg taagccttgt ccaaggagat ggatttggca 480
taaggacagc tgttatttcc taagtgatga tgtccaaaca tggcaggaga gtaaaatggc 540
ctgtgtgtgt cagaatgccg gctgttgaa gataaacaac aaaaatgcat tggaatttat 600
aaatcccag agtagatcat atgactattg gctgggatta tctcctgaag aagattccac 660
ccgtgggatg agagtggata atataatcaa ctctctctgcc tggtaagtgt 710

```

<210> 10

<211> 231

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Immune LCCR cell receptor

<400> 10

Met Cys Phe Tyr Glu Asn Tyr Ala Glu Ile Asp Phe Phe Thr Tyr Ser  
1 5 10 15

Ser Met Ser Glu Glu Val Thr Tyr Ala Asp Leu Gln Phe Gln Asn Ser  
20 25 30

Ser Glu Met Glu Lys Ile Pro Glu Ile Gly Lys Phe Gly Glu Lys Ala  
35 40 45

Pro Pro Ala Pro Ser His Val Trp Arg Pro Ala Ala Leu Phe Leu Thr  
50 55 60

Leu Leu Cys Leu Leu Leu Leu Ile Gly Leu Gly Val Leu Ala Ser Met  
65 70 75 80

Phe His Val Thr Leu Lys Ile Glu Met Lys Lys Met Asn Lys Leu Gln  
85 90 95

Asn Ile Ser Glu Glu Leu Gln Arg Asn Ile Ser Leu Gln Leu Met Ser  
100 105 110

Asn Met Asn Ile Ser Asn Lys Ile Arg Asn Leu Ser Thr Thr Leu Gln  
115 120 125

Thr Ile Ala Thr Lys Leu Cys Arg Glu Leu Tyr Ser Lys Glu Gln Glu  
130 135 140

His Lys Cys Lys Pro Cys Pro Arg Arg Trp Ile Trp His Lys Asp Ser  
145 150 155 160

Cys Tyr Phe Leu Ser Asp Asp Val Gln Thr Trp Gln Glu Ser Lys Met  
165 170 175

Ala Cys Ala Ala Gln Asn Ala Ser Leu Leu Lys Ile Asn Asn Lys Asn  
180 185 190

Ala Leu Glu Phe Ile Lys Ser Gln Ser Arg Ser Tyr Asp Tyr Trp Leu  
195 200 205

Gly Leu Ser Pro Glu Glu Asp Ser Thr Arg Gly Met Arg Val Asp Asn  
210 215 220

Ile Ile Asn Ser Ser Ala Trp  
225 230

<210> 11  
<211> 21  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 11  
ccataccagt gagggatgaat g 21

<210> 12  
<211> 22  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 12  
cccatgattc acctctcttg ag 22

<210> 13  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 13  
ctcaggatgc tcctttgtga cat 23

<210> 14  
<211> 23  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 14  
cttcacgttg acaaaacatc tcg 23

<210> 15  
<211> 29  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence:Primer

<400> 15

cccagataaa gaccagtgat ccttcact

29

<210> 16

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Primer

<400> 16

cctgcaccac caactgctta

20

<210> 17

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Primer

<400> 17

catgagtcct tccacgatac ca

22

<210> 18

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Primer

<400> 18

cctggccaag gtcattccatg acaac

25

<210> 19

<211> 25

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Primer

<400> 19

gcaatgatgt actgtctctt ttgga

25

<210> 20

<211> 23

<212> DNA

<213> Artificial Sequence

.220>



<223> Description of Artificial Sequence:Primer

<400> 20

'aacctcagc caagtaacgg tag

23

<210> 21

<211> 885

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:Exons 1-4 of Letal

<400> 21

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accataccag tgaggggtgaa tgtgtacacg cccagcttcc tgcttggtac tctccacagt 60
atgcgaagaa tatccctgac ttctagccct gtgcgccttc ttttgtttct gctggttgcta 120
ctaatagcct tggagatcat ggttgggtgg cactctcttt gcttcaactt cactataaaa 180
tcattgtcca gacctggaca gccctgggtgt gaagcgcagg tcttcttgaa taaaaatctt 240
ttccttcagt acaacagtga caacaacatg gtcaaacctc tgggcctcct ggggaagaag 300
gtatatgcca ccagcacttg gggagaattg acccaaacgc tgggagaagt ggggcgagac 360
ctcaggatgc tcctttgtga catcaaacc cagataaaga ccagtgatcc ttccactctg 420
caagtcgaga tgttttgtca acgtgaagca gaacggtgca ctggtgcac ctggcagttc 480
gccaccaatg gagagaaatc ctcctcttt gacgcaatga acatgacctg gacagtaatt 540
aatcatgaag ccagtaagat caaggagaca tggagaaaag acagagggtt ggaaaagtat 600
ttcaggaagc tctcaaaggg agactgcat cactggctca gggaattctt agggcactgg 660
gaggcaatgc cagaaccgac agtgtcacca gtaaattgct cagatatcca ctggtcttct 720
tctagtctac cagatagatg gatcatcctg ggggcattca tcctgttagt tttaatggga 780
attgttctca tctgtgtctg gtggcaaaat ggtgagtggc aggctggtct ctggcccttg 840
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